REMARKS

Status of the Claims

Claims 1-4 and 6-16 are pending, of which claims 10-16 are withdrawn from consideration.

The Present Claims are Patentable over Woo et al.

Claims 1-4 and 6-9 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,929,194 to Woo et al. (assigned to "THE DOW CHEMICAL COMPANY") (hereinafter "Woo").

Applicants traverse.

Woo does not disclose or fairly suggest the arylamine compound of formula (I), which is recited by present Claim 1 and is reproduced below:

$$Z\text{-}(Ar\text{-}NX)_n\text{-}Ar\text{-}(NX\text{-}Ar)_{n'}\text{-}Z, \quad (I)$$

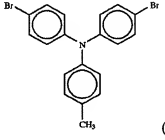
wherein Ar independently each occurrence is a group comprising one or more divalent aromatic groups, and optionally two Ar groups separated by a single NX group may be joined together by a second covalent bond or by a bridging group, thereby forming a fused multiple ring system; X is an inert substituent or a cross-linkable group, with the proviso that in at least one occurrence in said compound, X is a crosslinkable group; Z independently each occurrence is halo, cyano, triflate azide, $-B(OR^1)_2$, or  , wherein R^1, independently in each occurrence, is hydrogen or a $C_{1\text{-}10}$ alkyl group, and R^2, independently each occurrence, is a $C_{2\text{-}10}$ alkylene group, n is 1 or 2; and n' is 0, 1 or 2.

In the Amendment filed March 8, 2010, Applicants asserted that there would have been no reason to select and modify the compound of Example 11 of Woo, in the manner suggested

by the Examiner, to arrive at the structure of the claimed arylamine compound, with a reasonable expectation of success.

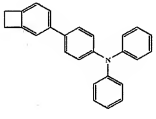
In response, the Examiner appears to have essentially maintained his position that one of ordinary skill would have substituted the cyclobutene containing aromatic ring of Examples 5 and 21 of Woo for the toluene ring of Example 11 of Woo, which would allegedly meet the requirement of the claimed arylamine compound of formula (I) as recited in Claim 1. *See* Office Action at pages 3-8, along with page 9, last paragraph, wherein the Examiner provided a response to Applicants' remarks.

More specifically, the Examiner pointed to Example 11 of Woo as teaching the following compound (having di(4-bromophenyl) structure).

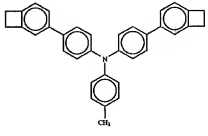


(Example 11 of Woo)

Further, the Examiner pointed to Examples 5 and 21 of Woo as teaching arylamine compounds containing cyclobutene group.



(Example 5 of Woo)



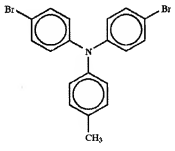
(Example 21 of Woo)

According to the Examiner, the motivation to modify Woo to substitute the

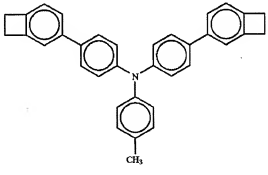
cyclobutene containing aromatic ring of Examples 5 and 21 of Woo for the toluene ring of Example 11 of Woo, is that Woo teaches advantages of the cyclobutyl containing moiety, and that one would be motivated to add the cyclobutene containing group to add these advantages. Further, the Examiner contended that one would be motivated to substitute one C_1-C_{20} hydrocarbyl group for another because they are structurally similar compounds. *See* Office Action, at page 9, last paragraph.

Applicants respectfully disagree.

Woo is directed to poly(tertiary di- or polyarylamines) which have more than one aryl moiety which is further substituted with a moiety capable of chain extension or crosslinking. *See* Abstract. Woo discloses that the haloaromatic compound having a reactive group capable of crosslinking or chain extension includes halogen-substituted benzocyclobutene (col. 9, lines 13 to 15). **In particular, the Examiner cited Example 11 of Woo as directed to preparation of N,N'-di-(4-bromophenyl)-p-tolylamine, which was used as a starting material to react with 4-benzocyclobuteneboronic acid to make the arylamine compound of Example 21.**



(Example 11 of Woo)



(Example 21 of Woo)

Accordingly, at least one reason the Examiner's asserted motivation to modify the compound of Example 11 of Woo lacks merit is that one of ordinary skill in the art would not

have been motivated to modify the structure of a starting material (the compound of Example 11 of Woo) with the structure of a final product (Example 21 of Woo), i.e., there would have been no reason to substitute the toluene ring of Example 11 with the cyclobutene containing aromatic ring of Examples 5 and 21 of Woo.

In addition, the Examiner has taken the position that column 7 of Woo contains relevant teachings. *See* page 6, second line from the bottom, to page 7, fourth line from the bottom, of the Office Action. In particular, the Examiner asserted in the last three lines of the above section of the Detailed Action that

> $R^{3'}$ can be a C1-20 hydrocarbyl moiety. A benzocyclobutene moiety is a C8 containing hydrocarbyl group. Thus, this genus encompasses the elected species and at least other members of the claimed genus.

In other words, the Examiner seems to be of the belief that R3' of Woo is a C1-20 hydrocarbyl moiety of the presently claimed invention.

Applicants respectfully disagree.

Benzocyclobutene moiety falls into the category of crosslinkable group, and is clearly distinguishable from the Cl-20 hydrocarbyl moiety of Woo. For example, the Examiner is kindly directed to the definition of R^3 in column 5, lines 25 to 32 of Woo, in which "C1-20 hydrocarbyl moiety" and "a moiety corresponding to the formula $-Ar^1(R^2)-Ar^2-E$" are clearly distinguished. The moiety corresponding to the formula $-Ar^1(R^2)-Ar^2-E$ is a crosslinkable group because the moiety contains group E, which is a reactive group capable of undergoing chain extension or crosslinking according to the definition of E in column 4, lines 53 to 62 of Woo. Accordingly, the "C1-20 hydrocarbyl moiety" and the "crosslinkable group" are clearly distinguished by Woo,

and thus, the Examiner has mistakenly asserted that the C1-20 hydrocarbyl moiety of $R^{3'}$ encompasses the croslinkable group benzocyclobutene.

In view of the above, Applicants respectfully request reconsideration and withdrawal of the rejection of Claims 1-4 and 6-9 as being unpatentable over Woo.

Conclusion

Reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The U.S. Patent and Trademark Office is hereby directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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